

REMARKS

Claims 1-34 were previously pending in the application. Claims 3, 16, 28, and 33-34 are canceled; claims 1, 4, 10, 12, 14, 23-24, 26, and 31 are amended; and new claims 35-38 are added herein. Assuming the entry of this amendment, claims 1-2, 4-15, 17-27, 29-32, and 35-38 are now pending in the application. The Applicant hereby requests further examination and reconsideration of the application in view of the foregoing amendments and these remarks.

Claim Objections:

In paragraph 1, the Examiner objected to (i) claims 14, 17, 18, 19, 20, 23, 24, 26, 29, 30, 31, and 33 for reciting the phrase “adapted to” and (ii) claim 33 for reciting the phrase “capable of.”

Since claim 33 is canceled, the objection to that claim is now moot.

Regarding the remaining objections, the Applicant submits that those objections should be withdrawn for failure to state a proper basis for objecting to the phrase “adapted to.” Alternatively, the Applicant requests that, in the next office action, such proper basis be explicitly stated to enable the Applicant to appropriately respond to the objections. The following arguments address the “adapted to” objections based on the closest case law on this point of which the Applicant is aware.

In In re Hutchison, 69 USPQ 138, the Court considered claim 42 in Application No. 416,334, filed October 24, 1941. 154 F.2d 135, 137. Claim 42 had the following language in the preamble: “42. As an article of manufacture, adapted for use in the fabrication of a metal template or the like suitable for metal-working operations, a laminated unit.” The Court concluded that the “phraseology [of] the introductory clause [reciting] ‘adapted’ for use ... does not constitute a limitation in any patentable sense.” Id. at 138. Thus, if anything, the decision in In re Hutchison stands for the proposition that a clause reciting, in the claim preamble, “adapted for use” does not constitute a limitation in any patentable sense. The decision in In re Hutchison does not support the proposition that a clause reciting, in the claim body, an element “adapted to” perform a function is not a positive limitation.

The decision of In re Hutchison is consistent with the well-known rule of claim interpretation that states that the claim preamble and the claim body are treated somewhat differently and, in some cases, the preamble is not considered to be a claim limitation. Whether or not the preamble is ignored or treated as a claim limitation depends on whether the preamble is necessary to “give life and meaning to the claim and properly define the invention.” In re Paulsen, 30 F.3d 1475, 1479 (Fed. Cir. 1994). It appears that, based on In re Hutchison, when a claim preamble recites “adapted for use,” that preamble can be ignored for claim interpretation purposes.

Turning now, for example, to claim 14 of the present application, one finds the following limitation: “a device adapted to generate two or more sub-streams.” At least two differences between this claim and claim 42 of the application of Hutchison are readily apparent. First, in claim 14, the objected to limitation is recited in the claim body, and not in the claim preamble as that in Hutchison’s claim 42. Second, the language (i.e., “adapted to” perform a function) of claim 14 is different from the language (i.e., “adapted for use in” a process) in Hutchison’s claim 42.

The fact that the objected to limitation is recited in the claim body, and not in the claim preamble, provides a clear distinction between the present application and that of In re Hutchison. Therefore, the rule of In re Hutchison does not apply to claim 14.

Even if the rule of In re Hutchison applied, which the Applicant does not admit, the language difference between claim 14 and Hutchison's claim 42 would still render the objection to be improper. Although the difference in the claim language might seem subtle, it has a substantive basis. More specifically, the "adapted for use" clause in claim 42 of the application of Hutchison simply characterizes the category of the invention through its intended use. In contrast, the "adapted to" limitation of claim 14 is a structural limitation that enables the recited element ("a device") to perform the recited function ("to generate two or more sub-streams"). For example, when a claim has, in the claim body, the recitation of "a box with a lid connected to the box and adapted to pivot relative to the box," this recitation implies a structural limitation of a hinge or other suitable mechanism enabling the lid to pivot with respect to the box. Similarly, the recitation of "a circuit adapted to generate a particular type of signal" implies a structural limitation of one or more electrical components or other circuit devices that are capable of generating that particular type of signal. Likewise, the objected-to limitation of claim 14 implies the presence of a corresponding appropriate physical means that enables the device to generate the two or more sub-streams.

Second, it is submitted that the current practice of the United States Patent and Trademark Office (USPTO) supports the above-presented reading of the case law. More specifically, the USPTO routinely allows claims containing various "adapted to" clauses in the claim body. In fact, the USPTO search engine provided **numerous** hits for issued claims containing one or more "adapted to" clauses.

In summary, the Applicant submits that the objection to claims 14, 17, 18, 19, 20, 23, 24, 26, 29, 30, 31 based on In re Hutchison, 154 F.2d 135, would be an improper application of In re Hutchison and would be inconsistent with the current USPTO practice.

Claim Rejections:

In paragraph 3, the Examiner rejected claims 1-25 and 31-34 under 35 U.S.C. § 102(b) as being anticipated by Leach. In paragraph 5, the Examiner rejected claims 26-27 under 35 U.S.C. § 102(b) as being anticipated by Gubbi. In paragraph 8, the Examiner rejected claims 28-30 under 35 U.S.C. § 103(a) as being unpatentable over Gubbi in view of Leach. For the following reasons, the Applicant submits that all pending claims are allowable over the cited references.

Support for the amendment of claim 1 can be found, e.g., in original claim 3 (now canceled). Claims 14, 26, and 31 are amended similar to claim 1.

Amended claim 1 is directed to a method of processing data streams in a contention-based WLAN system. The method has the steps of: (A) generating two or more sub-streams corresponding to a first data stream, wherein the two or more sub-streams comprise a **base sub-stream and** at least one **enhancement sub-stream**; (B) assigning priority to each of the two or more sub-streams, wherein at least two of said base and enhancement sub-streams have **different priorities**; and (C) transmitting data corresponding to each of the two or more sub-streams based on the assigned priority.

Base and enhancement sub-streams are defined and examples of such sub-streams are provided in Applicant's specification, e.g., on page 5, lines 14-23. For example, a base sub-stream may be constructed so that it can be decoded independently. An enhancement sub-stream

may be constructed so that it can only be decoded using the data contained in one or more corresponding lower-layer sub-streams, e.g., the base sub-stream.

Leach discloses a communications system having a scheduling entity that enqueues data frames into different transmission buffers based on the frame's priority and the presence or absence of a "persistent mark." The scheduling entity then selectively applies the enqueued data frames from the transmission buffers to a transmitter for transmission during a contention period or a contention free period.

First, the Applicant submits that Leach does not teach or even suggest that the enqueued data frames represent "base and enhancement sub-streams" of a common data stream, notwithstanding the Examiner's assertion to the contrary in the rejection of original claim 3. Secondly, the Applicant submits that, because of the absence of such a teaching or suggestion, Leach cannot possibly teach or suggest the limitation of "wherein at least two of said base and enhancement sub-streams have different priorities," which is explicitly recited in claim 1.

Gubbi discloses multimedia extensions for a wireless local area network. Quality of Service (QoS) related extensions include a method for dynamically and separately negotiating priority, bandwidth, and retransmission parameters for each multimedia stream. Stream-synchronization related extensions include a method for maintaining specified temporal relationships between various sub-streams that carry multimedia information, e.g., a video sub-stream and a corresponding audio sub-stream. The Applicant submits that Gubbi does not disclose multimedia streams composed of base and enhancement sub-streams, as those terms are defined in Applicant's specification. Neither does Gubbi disclose how to assign priorities to such base and enhancement sub-streams.

For at least these reasons, the Applicant submits that claim 1 is allowable over the cited references. For similar reasons, the Applicant submits that claims 14, 26, and 31 are also allowable over the cited references. Since the remaining claims depend variously from claims 1, 14, 26, and 31, it is further submitted that those claims are also allowable over the cited references. The Applicant submits therefore that the rejections of claims under §§ 102 and 103 have been overcome.

Support for new claims 35-38 can be found, e.g., on page 5, lines 14-23. While claims 1, 14, 26, and 31 implicitly rely on a description of base and enhancement sub-streams given in Applicant's specification, each of claims 35-38, which depend from claims 31, 1, 14, and 26, respectively, now provide an explicit definition of those sub-streams. The Applicant submits that at least some of the above-indicated reasons for allowability of claim 1 similarly apply to each of claims 35-38. This fact provides additional reasons for the allowability of those claims over the cited references.

Support for the amendment of claim 12 can be found, e.g., in Applicant's Fig. 4 and page 9, lines 25-33. Claim 24 is similarly amended.

Amended claim 12, which depends from claim 1, recites the steps of: (i) generating two or more sub-streams corresponding to a second data stream, wherein said two or more sub-streams corresponding to the second data stream comprise a corresponding base sub-stream and at least one corresponding enhancement sub-stream; (ii) assigning priority to each of said sub-streams corresponding to the second data stream; and (iii) for each of the two or more sub-streams corresponding to the first data stream and the two or more sub-streams corresponding to the second data stream, accumulating data corresponding to the sub-stream in a corresponding transmission queue, wherein at least one of said transmission queues receives sub-stream data corresponding to each of the first and second data streams.

The Applicant submits that Leach and Gubbi, independently or in combination, do not teach or even suggest the limitations of claim 12. In particular, Leach does not teach the limitations of claim 12 because the disclosure of Leach focuses on the transmission of data frames corresponding to a single data stream (see, e.g., element 301 in Leach's Fig. 3 and the corresponding description). Claim 12 is allowable over Gubbi at least because Gubbi does not teach or even suggest the limitation of "for each of the two or more sub-streams corresponding to the first data stream and the two or more sub-streams corresponding to the second data stream, accumulating data corresponding to the sub-stream in a corresponding transmission queue, wherein at least one of said transmission queues receives sub-stream data corresponding to each of the first and second data streams." All these reasons serve as additional reasons for allowability of claim 12. It is further submitted that at least some of these additional reasons similarly apply to claim 24.

In view of the above amendments and remarks, the Applicant believes that the now-pending claims are in condition for allowance. Therefore, the Applicant believes that the entire application is now in condition for allowance, and early and favorable action is respectfully solicited.

Respectfully submitted,

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